

In re Application of Mark Kiff
Application No. 10/706,807

REMARKS

The applicant expresses his thanks to the Examiner for her kind attention to this application, and for the recent Office Action.

The Pending Claims

Claims 14-17 and 19-25 currently are pending in the application. In the most recent Office Action, all the objections regarding prior art were withdrawn. Thus, the only issue remaining in the office action is the adequacy of the disclosure for the pending claims under section 112.

Two objections are made under section 112. First, claims 14-17 and 19-21 are rejected as failing to provide a written description that would enable a person of skill in the art to make and use the invention. The limitation in the claim 14 relating to drying before dye fixation is stated to be not disclosed in the specification.

Second, claims 22-25 are objected to for the separate reason that the stated claimed feature of "a fabric having a pile on at least one side thereof" is said to be insufficient to provide a written description that would enable a person of skill in the art to make and use the invention. In response, applicant has amended claim 22 (and by dependency, claims 22-25), which moots this second issue.

Section 112

Applicant traverses the rejections stated above, and submits that applicant has complied with section 112 of the Patent Act. That is, the invention is described in the specification in writing, including the manner and process of using it, in terms that enable a person of skill in the art to make and use the invention.

The invention relates to the discovery that it is possible to provide a color shade contrast that corresponds with carved or etched areas on a textile. Etching of a pile-containing fabric may occur using a process of providing a pile fabric which previously has received upon the pile surface an unfixed dye. Then, this fabric which has been treated with unfixed dye may be dried and screen printed. Screen printing (also known as "etching") is applied using an extremely strong alkali paste upon the fabric. Screen printing is followed by heating. The dye is then fixed in the subsequent heating step, which uses an elongated dwell time sufficient to fix the dye. Declaration of Inventor Mark Kiff, paragraph 4; specification pages 4-5.

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Figure 3 shows a schematic of one method of making a textile 20 as shown in Figures 1-2. In Figure 3, a textile 20 is provided. Unfixed dye is applied to the textile 20. A dye base shade is applied without chemically fixing the dyes to the fibers of the textile. "Fixing" a dye refers to the chemical or thermodynamic change effected upon a dye molecule that causes the dye molecule to firmly attach itself to a fiber, and/or exhibit color. This method of dye application can be accomplished by any method of continuous dyeing, including pad dyeing, blotch screen printing, ink jet printing, spraying, foam dyeing, exhaust dyeing, sublimation dyeing, dye injection, beam dyeing and beck dyeing. Declaration, para 5; specification pages 9-10.

In the specification, as illustrated in Figure 3, there is disclosed a step of drying the fabric with unfixed dye. Later in the process, there is a step of heating by steaming or thermosol methods. Declaration, para 6. This heating step fixes the dye. Thus, the drying step precedes the heating and dye fixation, which means that the fabric will be at least partially dried before the majority of the dye is fixed. Declaration, para 6; specification page 9.

In the specification, the process is described in which the drying step is performed under conditions sufficient to at least partially dry the fabric without fixing a substantial portion of the unfixed dye to the pile of the fabric. Declaration, para 7. This would be apparent to a person of skill in the art. Declaration, para 7. For example, on page 10, it is explained that sometimes there will be little or no fixation of dyes, as when the dyes are discharged to white. In other instances, it is possible to use relatively higher temperatures, or longer dwell times, to fix the dyes only to some degree, and thereby create tone-on-tone discharging in the etched areas. This can occur when the fabric is at least partially dried without fixing a substantial portion of the unfixed dye to the pile of the fabric. Declaration, para 7. The specification explains this technique, in which the fabric is dried to some extent before the subsequent step of dye fixation:

"Drying may employ a drying profile which can be altered to achieve a desired degree of dye fixation. Fabrics with no dye fixation during drying can be altered to achieve a desired degree of dye fixation. Fabrics with no dye fixation during drying and with appropriate dyes can be discharged to white. Using higher temperatures or longer dwell times [in the subsequent heating step], some fixation of the dyes can occur and it may be possible to create tone-on-tone discharging in etched areas."

Specification, page 10.

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On page 13, the specification further discloses that the drying step is performed under conditions sufficient to dry the fabric to some degree without fixing a substantial portion of the unfixed dye to the pile of the fabric. Declaration, para 8. The Example 1 discloses in detail the manufacture of the pile fabric in this manner. Dye is applied. Declaration, para 8; page 13. The fabric is dried to some extent on a radio frequency dryer to ensure level and evenly distributed dye application during the drying step. See page 13. This step partially dries the fabric as would be appreciated by persons of skill in the art. Declaration, para 8. Thus, drying precedes the fixation of the dye, and that means that the fabric is at least partially dried before the dye is fixed. Declaration, para 8; specification page 13.

The specification provides:

"At this stage the fabric had been dried, but dyes were not fixed in the fibers." Specification, page 13.

Later, the specification describes the heating step that uses a relatively longer dwell time which serves to fix the dye:

"The dyes were fixed to the fabric by means of a superheated steamer. Fabric entered the steamer at a temperature of 180 degrees Celsius. The dwell time was about 8 minutes, which was adequate to fix the dyes."

One important feature of the invention is that the drying step precedes the dye fixation step, and that is fully disclosed in the application as filed. Also, the dwell time in the dye fixation step causes the dye to be fixed, which is also fully disclosed in the application as filed. Declaration, para 9.

In summary, a person of skill in the art, upon reviewing the specification and drawings in this instance, would readily determine that the drying step is performed under conditions sufficient to at least partially dry the fabric without fixing a substantial portion of the unfixed dye to the pile of the fabric. Declaration, para 10.

With regard to the second section 112 objection (claims 22-25), a person of skill in the art would, upon reading the specification and reviewing the Figures, readily determine that applicant has disclosed a fabric having a pile on one side thereof. Figure 2 illustrates one application of the invention. Figure 2 shows a cross sectional view taken along line 2-2 of Figure 1. The first region 23 includes a pile 29, shown in Figure 2. The pile 29 is comprised of first yarns 25 having first

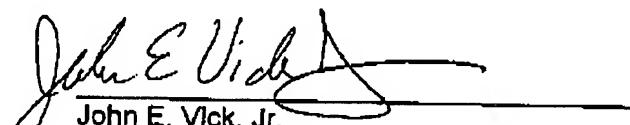
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distal ends 26. The first distal ends 26 collectively form an upper plane 27 of said first region 23 of said textile 20. The first yarns 25 have applied thereon a dye, which provides visual color. The first region 23 includes a first color shade having a given intensity and color value. The first region 23 provides a first pile height 33 (shown on the left side of Figure 2), while the second region 24a provides a second pile height 34, which is less (i.e. shorter) than the first pile height 33. Thus, Figure 2 clearly shows a fabric having a pile on one side thereof. Declaration, para 11. It is respectfully submitted that the amended claim 22, and by dependency claims 23-25, are fully disclosed by the application filed, and that this objection should be withdrawn.

Conclusion

In view of the foregoing, the application is considered in proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. The Examiner is invited to phone if it would be helpful.

Respectfully submitted,


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